COVID-19 morbidity and mortality by race, ethnicity and spoken language in Washington state

Washington State Department of Health

June 14, 2023

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For more information or additional copies of this report:

Office of Health and Science
Center for Data Science
1610 NE 150th Street, MS: K17-9
Shoreline, WA 98155

Phone: 206-418-5700 (24-hour contact for local health jurisdictions only)
Email: DOH-CDS-Surveillance@doh.wa.gov

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NOTE: On May 17, 2023, DOH implemented a new definition that changes how we track COVID-19 deaths on the COVID-19 Data Dashboard and in published reports. The new definition for COVID-19 deaths results in some adjustments to death counts and rates, but overall changes are minimal. The new definition is more accurate and creates standardization in COVID-19 death classification moving forward.

Overview

The impacts of COVID-19 morbidity and mortality have not been felt equally by all populations in Washington state. The pandemic has exacerbated the underlying and persistent inequities among historically marginalized communities and those disproportionately impacted due to structural racism and other forms of systemic oppression. This report provides an overview of confirmed or probable COVID-19 case, hospitalization, and death rates by race and ethnicity at state and regional levels. It also provides counts and percentages of confirmed or probable cases and hospitalizations by primary language spoken. Throughout this report, the COVID-19 case definition includes both molecular testing and antigen testing. Molecular positive cases are considered confirmed cases and antigen positive cases are considered probable cases. All hospitalization, death, and testing data reported here are based on positive molecular or antigen test results.

All rates presented in this report are adjusted for age using the Washington state population distribution based on the Office of Financial Management's (OFM) April 1, 2020 population estimates by age, sex, race, and Hispanic origin. The rate calculations are for the population groups available from OFM for the Washington state population and follow Department of Health guidelines. Hispanic ethnicity was assigned first, regardless of race, and then racial groups were identified for those identifying as non-Hispanic. Based on this, the current report includes the following groups:

- Hispanic; and
- non-Hispanic race categorizations for white, Black, Native Hawaiian or Pacific Islander (NHPI), Asian, and American Indian or Alaska Native (AIAN), and multiracial, which includes individuals who reported two or more races.

While this allows assessment of data by race and ethnicity groups, this categorization is incomplete and does not reflect the diversity of people and experiences across the state. Additionally, there is a significant lack of race and ethnicity reporting for COVID-19 cases and hospitalizations (about 28% missing). Primary language spoken is missing for about 78% of cases and hospitalizations. Age information is missing for a small percentage of cases (about 0.1%), and these cases are not included in age-adjusted rates. The lack of data limits our ability to draw firm conclusions; however, there are some concerning patterns reported below.

Cumulative age-adjusted COVID-19 case, hospitalization, and death rates by race and ethnicity per 100,000 population

The table and figures below describe the counts and age-adjusted rates per 100,000 population in Washington by race and ethnicity for cases, hospitalizations, and deaths for the entire time period from the start of the pandemic through 2023-06-03 based on the specimen collection date. 95% confidence intervals are included in the charts.

The data show that communities of color are disproportionately impacted by COVID-19 in significant ways, including the following.

COVID-19 case rates

- NHPI and AIAN populations have the highest age-adjusted case rates while Asian and multiracial populations have the lowest case rates.
- Case rates for NHPI and AIAN populations are approximately three times higher than case rates for Asian and multiracial populations.
- Case rates for Black populations are approximately two times higher than case rates among multiracial populations.

COVID-19 hospitalization rates among cases

- Hospitalization rates among COVID-19 cases are the highest for NHPI populations and lowest for Asian populations.
- NHPI hospitalization rates among COVID-19 cases are approximately six times higher than white populations.
- Hispanic hospitalization rates among COVID-19 cases are approximately two times higher than white populations.
- Hospitalization rates among COVID-19 cases for Black and AIAN populations are approximately two times higher compared to white populations.

COVID-19 death rates among cases

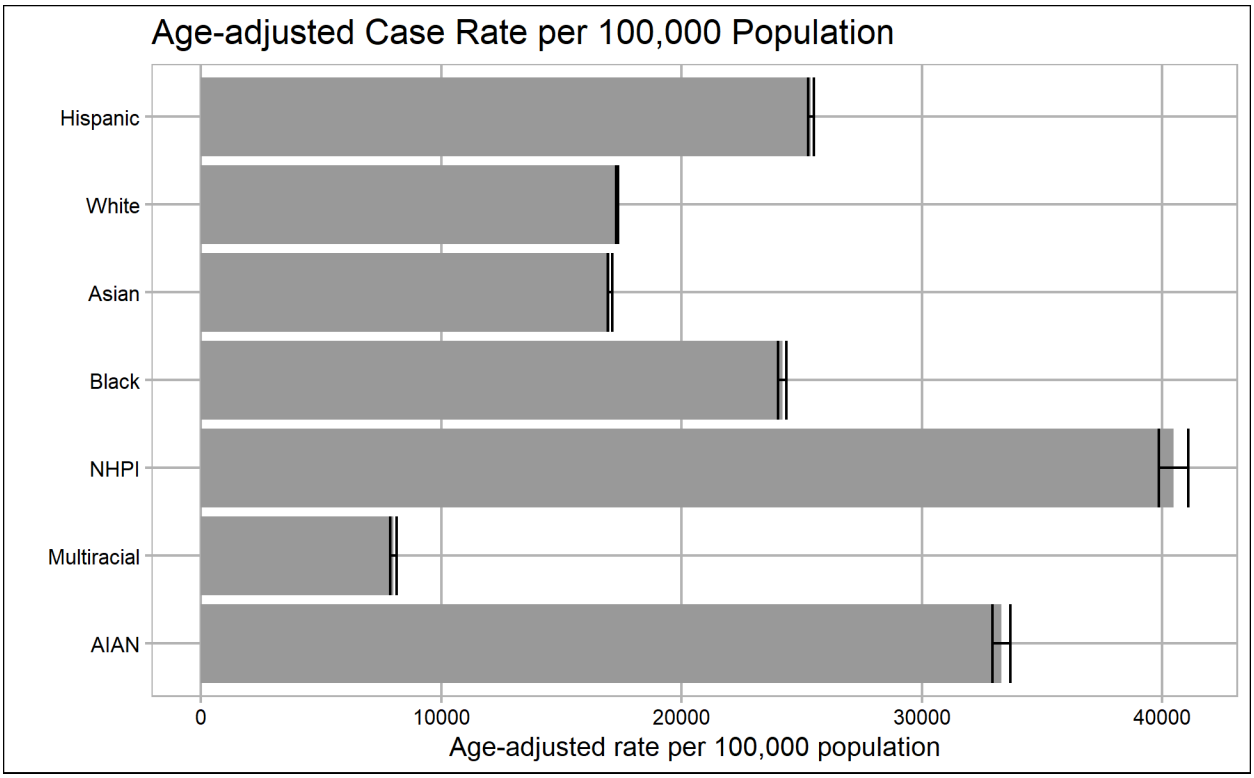
- Asian populations have the lowest death rates among COVID-19 cases of all race/ethnicity groups.
- NHPI populations have death rates among COVID-19 cases that are approximately five times higher than white and Asian populations.
- AIAN and Hispanic populations have death rates among COVID-19 cases that are approximately three times higher than Asian populations.

- Black populations have death rates among COVID-19 cases that are about twice as high as white populations.

Table 1. COVID-19 case, hospitalization, and death counts and age-adjusted rates by race/ethnicity 2020-03-01 to 2023-06-03

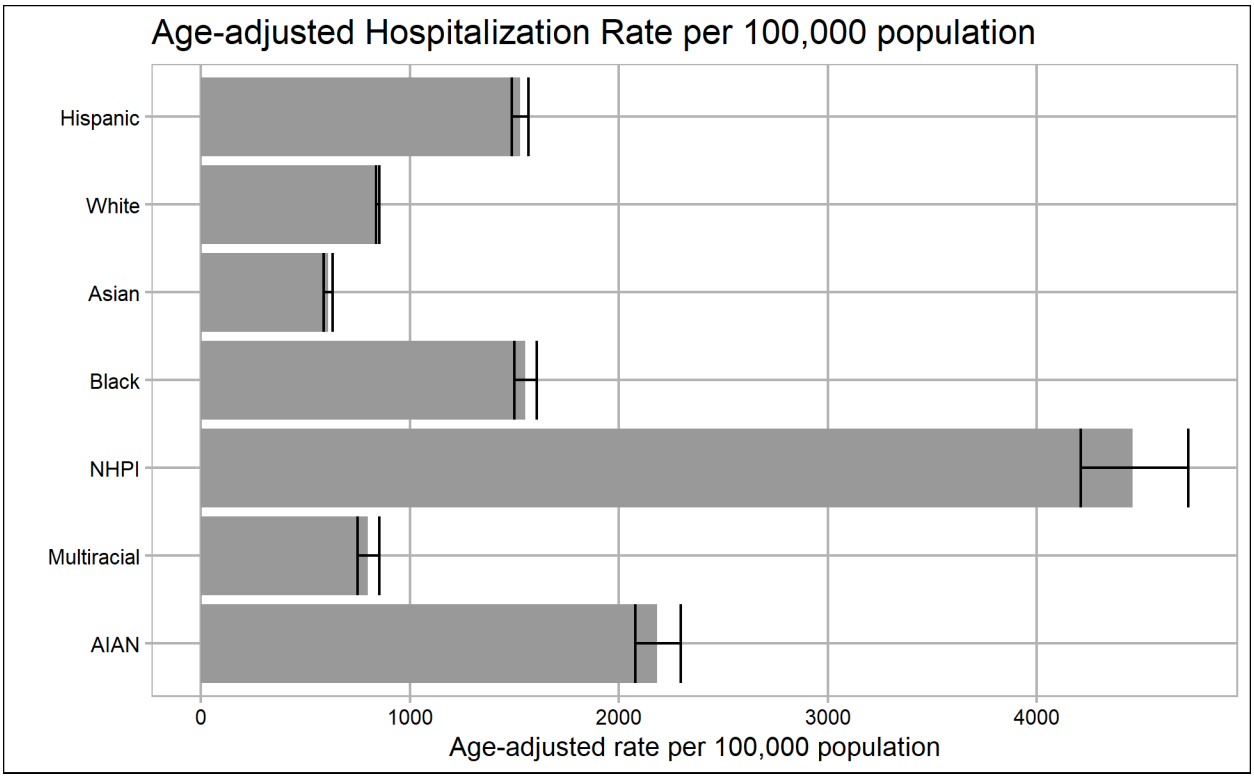
Race/Ethnicity	Case Count	Age-Adjusted Case Rate per 100,000	Hospitalization Count	Age-Adjusted Hospitalization Rate per 100,000	Death Count	Age-Adjusted Death Rate per 100,000
All Races	1,960,617	25608.2	85,206	1112.9	16,054	209.7
Unknown	553,358		14,267		109	
Hispanic	249,684	25376.7	8,263	1527.2	1,277	380.9
White	868,498	17319.5	50,332	844.8	12,417	192.6
Asian	126,322	17014.4	3,548	607.6	887	177.9
Black	75,174	24190.4	3,658	1552.3	550	305.0
NHPI	22,300	40461.9	1,627	4461.0	254	940.0
Multiracial	22,194	8013.3	1,083	799.5	221	185.5
AIAN	31,760	33295.5	1,759	2184.6	339	491.2
Other	11,327		669		0	

The following graph indicates the age-adjusted COVID-19 case rate per 100,000 population by race/ethnicity during the time period 2020-03-01 to 2023-06-03



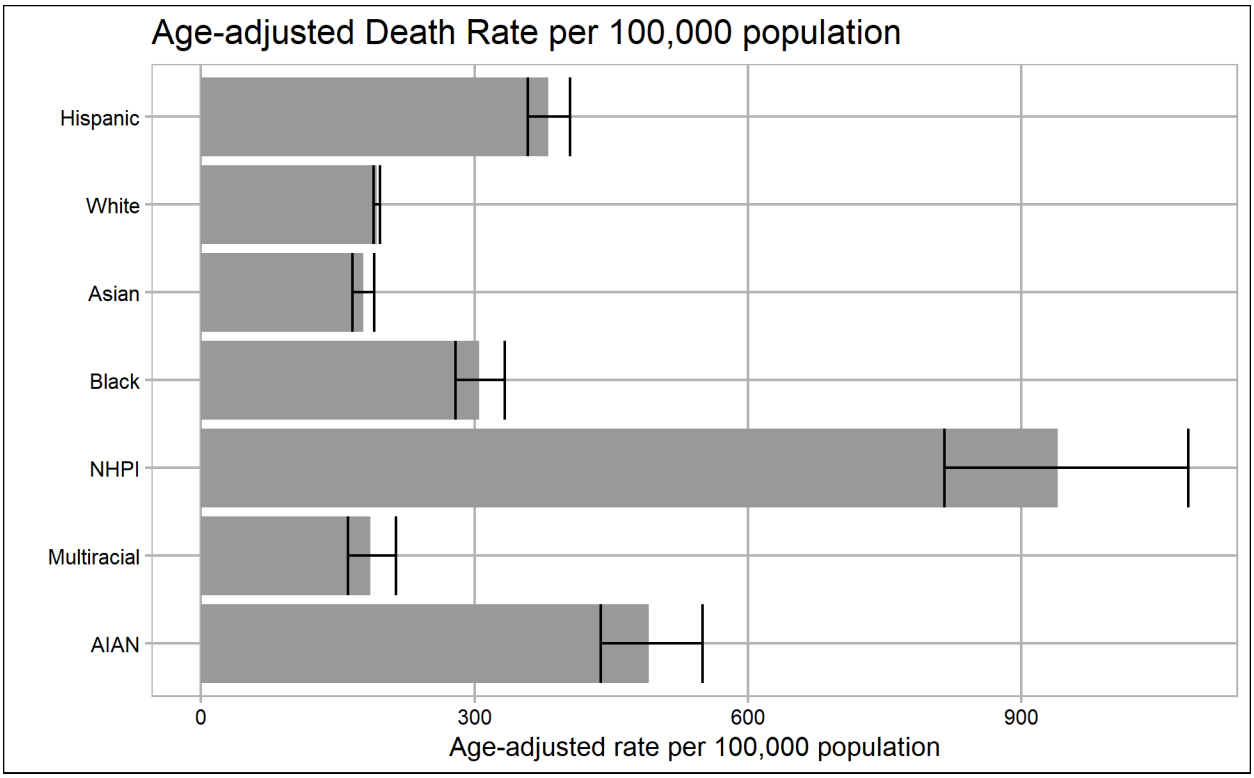
Source: Washington Disease Reporting System (WDRS)

The following graph indicates the age-adjusted hospitalization rate among COVID-19 cases per 100,000 population by race/ethnicity during the time period 2020-03-01 to 2023-06-03



Source: Washington Disease Reporting System (WDRS)

The following graph indicates the age-adjusted death rate among COVID-19 cases per 100,000 population by race/ethnicity during the time period 2020-03-01 to 2023-06-03



Source: Electronic Death Registration System (EDRS) and Washington Health and Life Events System (WHALES)

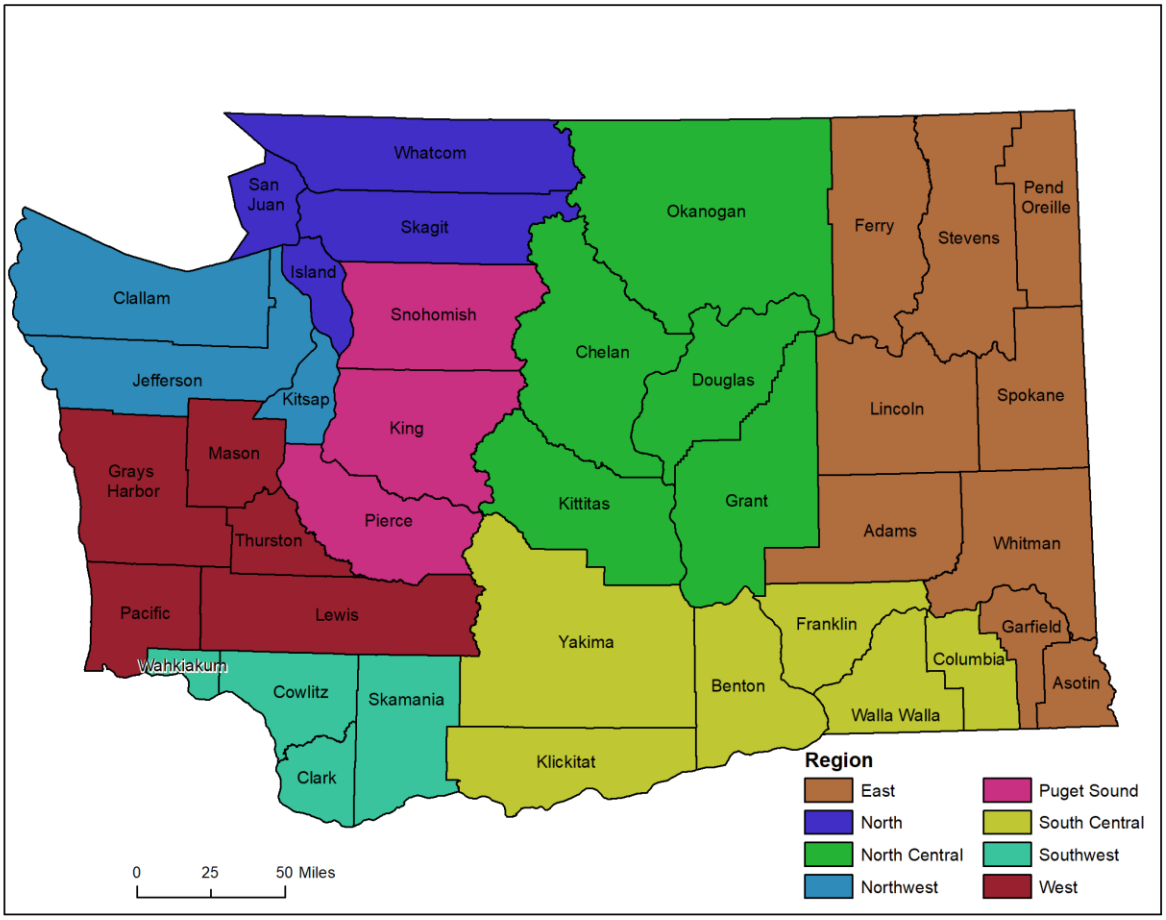
Analysis of COVID-19 cases by DOH analytic region

DOH analytic region groupings of Washington state counties

Some counties may not have sufficient case counts to analyze trends by race and ethnicity, as their small number of cases would need to be suppressed to adhere to Washington State Department of Health reporting standards. However, in order to incorporate data from counties of all sizes, counties were grouped into one of eight DOH analytic regions (see Map of Washington Counties and Analysis Regions below). The regions presented were developed by the Washington State Department of Health's COVID-19 Informatics and Modeling team in 2020 to better understand geographic differences in disease spread and how it may be changing over time.

While infection rates may not be the same between smaller geographic subunits within any given region, this regional grouping allows for more specific geographic analyses without excluding any counties or communities due to concerns about smaller numbers.

Map of Washington counties by DOH analytic region



Missing race/ethnicity data by DOH analytic region

The total number of cases, and the number and percentage of cases with missing race/ethnicity data in each region are shown in Table 2 below. The North and Southwest regions have the highest percentage of missing race/ethnicity data among COVID-19 cases, and the North Central and Puget Sound regions have the lowest percentage of missing data on race/ethnicity. However, the percentage of missing race/ethnicity data among cases likely varies by smaller geographic units within each region, as approaches to recording race and ethnicity data likely differs across health clinics and settings within each region.

Table 2. Counts and percentage of COVID-19 cases with unknown race/ethnicity by DOH analytic region 2020-03-01 to 2023-06-03.

Region	Case Count	Cases with Unknown Race/Ethnicity	% Cases with Unknown Race/Ethnicity
East	197,233	49,228	25%

Region	Case Count	Cases with Unknown Race/Ethnicity	% Cases with Unknown Race/Ethnicity
North	95,262	35,940	38%
North Central	91,877	18,933	21%
Northwest	75,478	23,972	32%
Puget Sound	1,018,912	276,479	27%
South Central	208,745	60,393	29%
Southwest	143,805	55,822	39%
West	127,485	31,289	25%
Unknown	3,124	2,105	67%

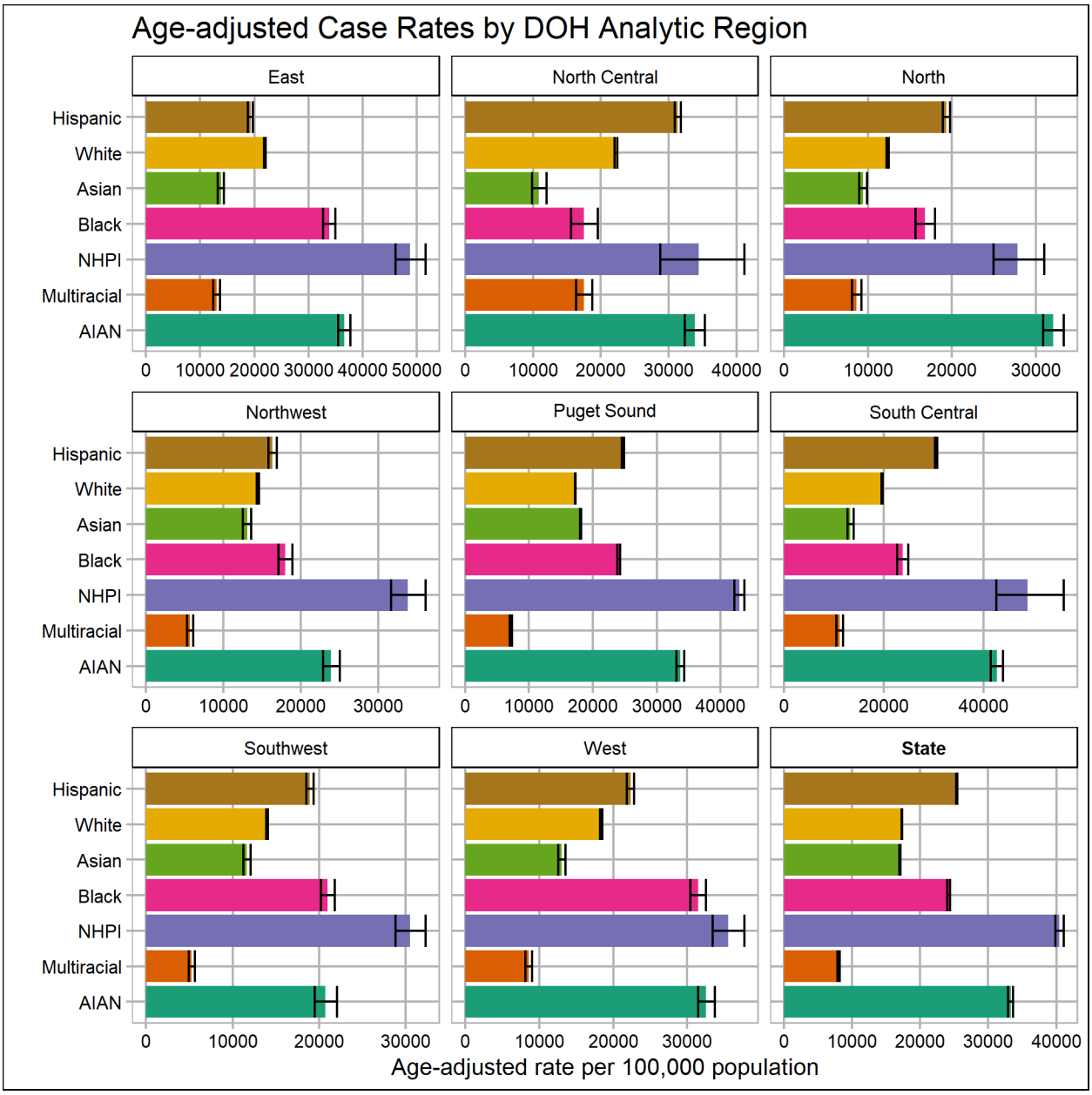
Source: Washington Disease Reporting System (WDRS)
Includes data from 2020-03-01 to 2023-06-03

Cumulative age-adjusted COVID-19 case rates by race, ethnicity, and DOH analytic region

The following figures describe the age-adjusted COVID-19 case rates per 100,000 population by race/ethnicity and region. They were calculated using the cases with known race/ethnicity (about 70% of all reported cases).

It is important to note that the numeric scales in the figure below may differ between regions, so use caution when comparing two or more regions. The last figure (lower right corner) presents the age-adjusted COVID-19 case rates for the whole state.

These data indicate that cases of COVID-19 are found in significant numbers across racial and ethnic groups throughout the state, and they are not confined to certain areas, such as rural, urban, or suburban regions. Population centers in Puget Sound contribute substantially to the counts. However, in each analytic region of the state, drastic inequities in case rates exist, disproportionately affecting racial and ethnicity minority, particularly NHPI, AI/AN, Black, and Hispanic populations.



Source: Washington Disease Reporting System (WDRS)
Includes data from 2020-03-01 to 2023-06-03

Analysis of COVID-19 cases by ACH geographic region

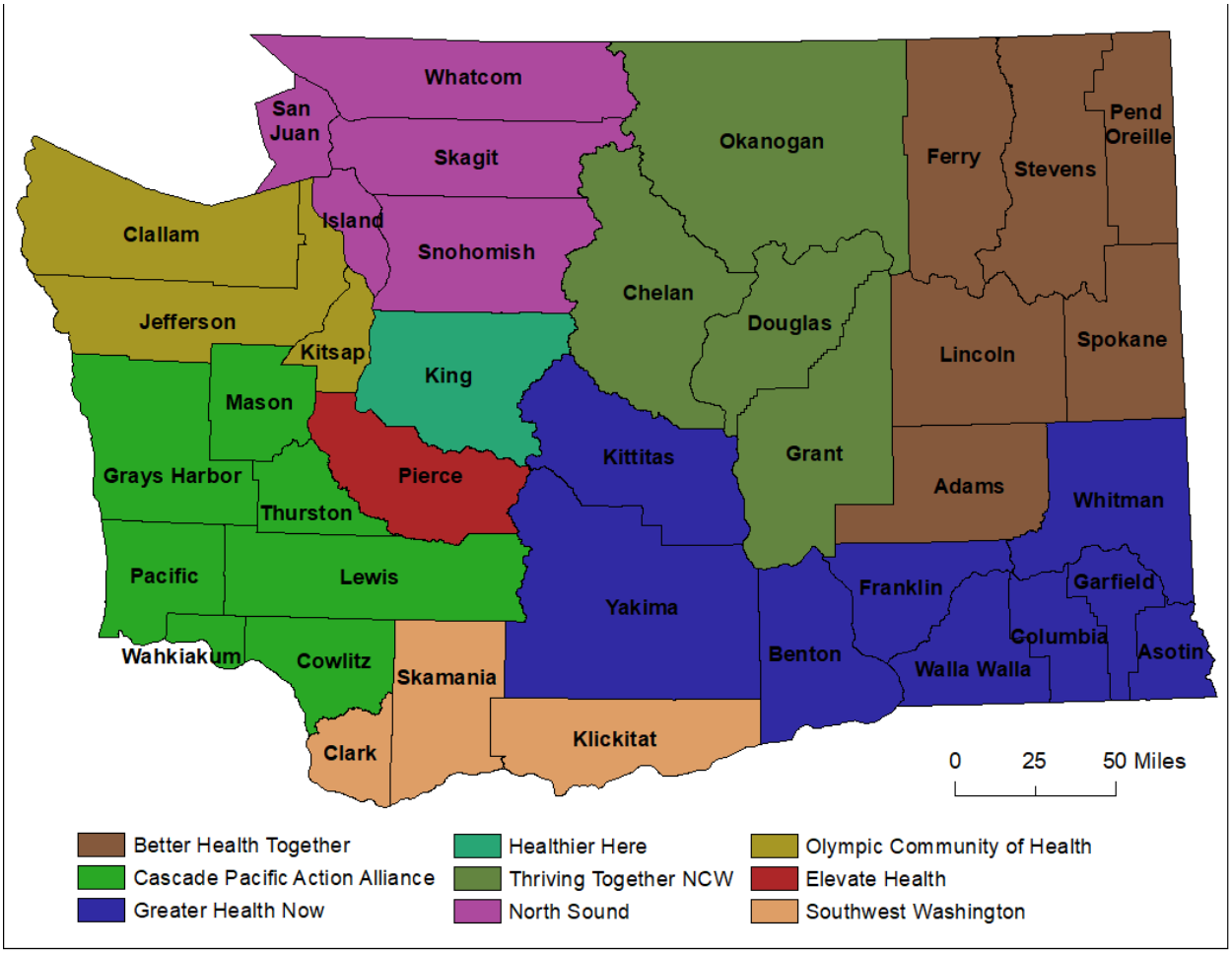
ACH regional groupings of Washington state counties

Additionally, in order to group counties into regions relevant to established collaborative networks, counties were assigned into one of nine Accountable Communities of Health (ACH) analytic regions (see Map of Washington counties by ACH analysis regions below). An ACH is a regional coalition of stakeholders that, as part of Washington State's federally funded Medicaid Transformation Project (MTP), collaborate to address health issues through community and

healthcare transformation. The ACHs work with health providers, local health jurisdictions, community-based organizations, payers, and other groups to address issues of public health and promote health care delivery transformation in a coordinated manner, specific to their local region.

While infection rates may not be the same between smaller geographic subunits within any given ACH region, this regional grouping allows for more specific geographic analyses without excluding any counties or communities due to concerns about smaller numbers.

Map of Washington counties by ACH region



Missing race/ethnicity data by ACH region

The total number of cases, and the number and percentage of cases with missing race/ethnicity data in each ACH region are shown in Table 3 below. The Southwest Washington and Olympic Community of Health ACH regions have the highest percentage of missing race/ethnicity data among COVID-19 cases, and the Thriving Together NCW and Better Health Together ACH regions have the lowest percentage of missing race/ethnicity data. However, this variation across ACH regions in the percentage of missing race/ethnicity data among cases is expected, as

approaches to recording race and ethnicity data likely differs across health clinics and settings within each ACH region.

Table 3. Counts and percentage of COVID-19 cases with unknown race/ethnicity by ACH region 2020-03-01 to 2023-06-03.

ACH	Case Count	Cases with Unknown Race/Ethnicity	% Cases with Unknown Race/Ethnicity
Better Health Together	180,758	39,664	22%
Cascade Pacific Action Alliance	155,723	45,085	29%
Elevate Health	249,647	75,895	30%
Greater Health Now	231,382	72,641	31%
Healthier Here	560,008	150,599	27%
North Sound	304,519	85,925	28%
Olympic Community of Health	75,478	23,972	32%
Southwest Washington	119,946	43,402	36%
Thriving Together NCW	81,336	14,873	18%
Unknown	3,124	2,105	67%

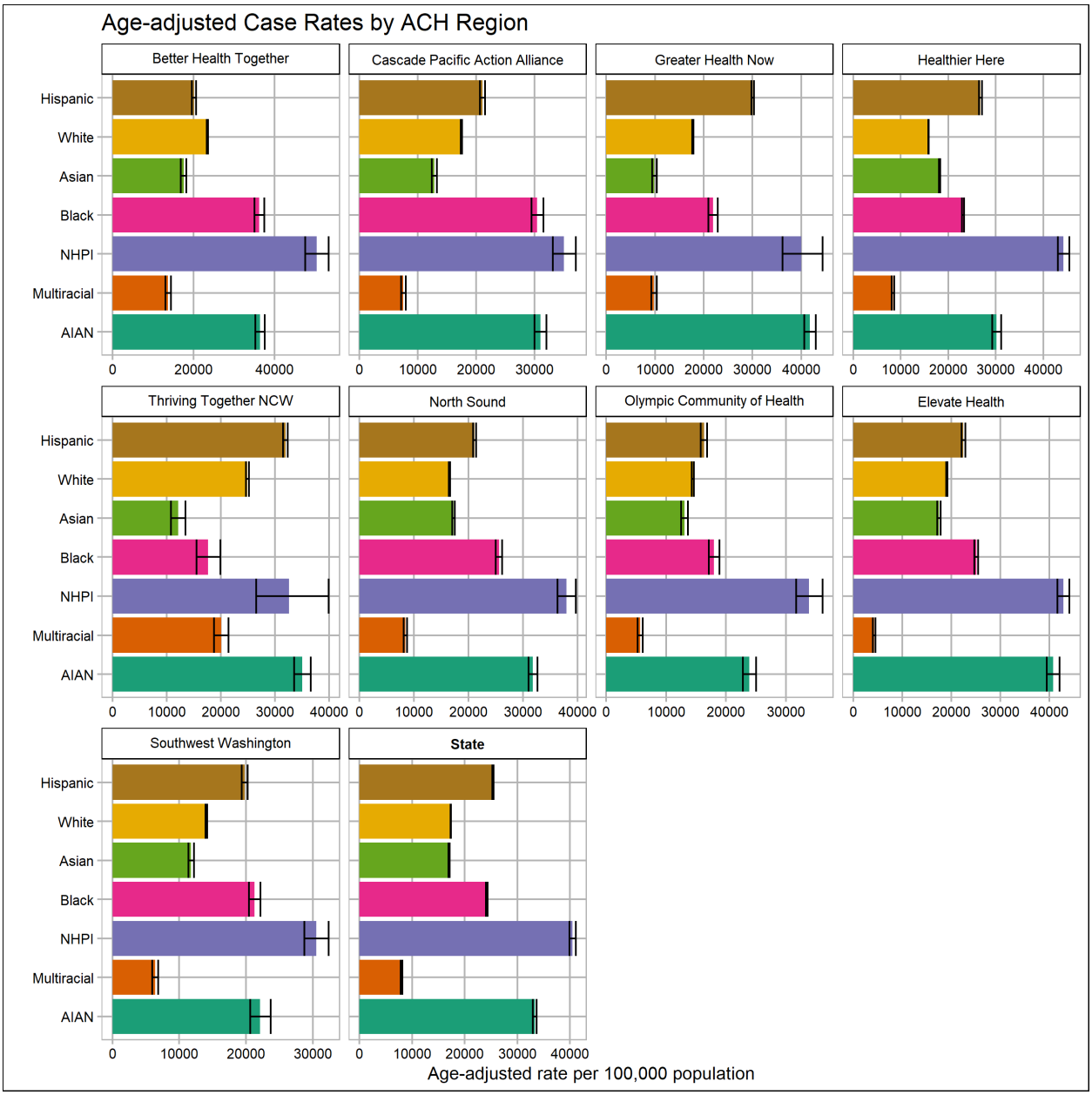
Source: Washington Disease Reporting System (WDRS)
Includes data from 2020-03-01 to 2023-06-03

Cumulative age-adjusted COVID-19 case rates by race, ethnicity, and ACH region

The following figures describe the age-adjusted COVID-19 case rates per 100,000 population by race/ethnicity and ACH region. They were calculated using the cases with known race/ethnicity (about 70% of all reported cases).

It is important to note that the numeric scales in the figure below may differ between ACH regions, so use caution when comparing case rates between two or more ACH regions. The last figure (lower center) presents the age-adjusted COVID-19 case rates for the whole state.

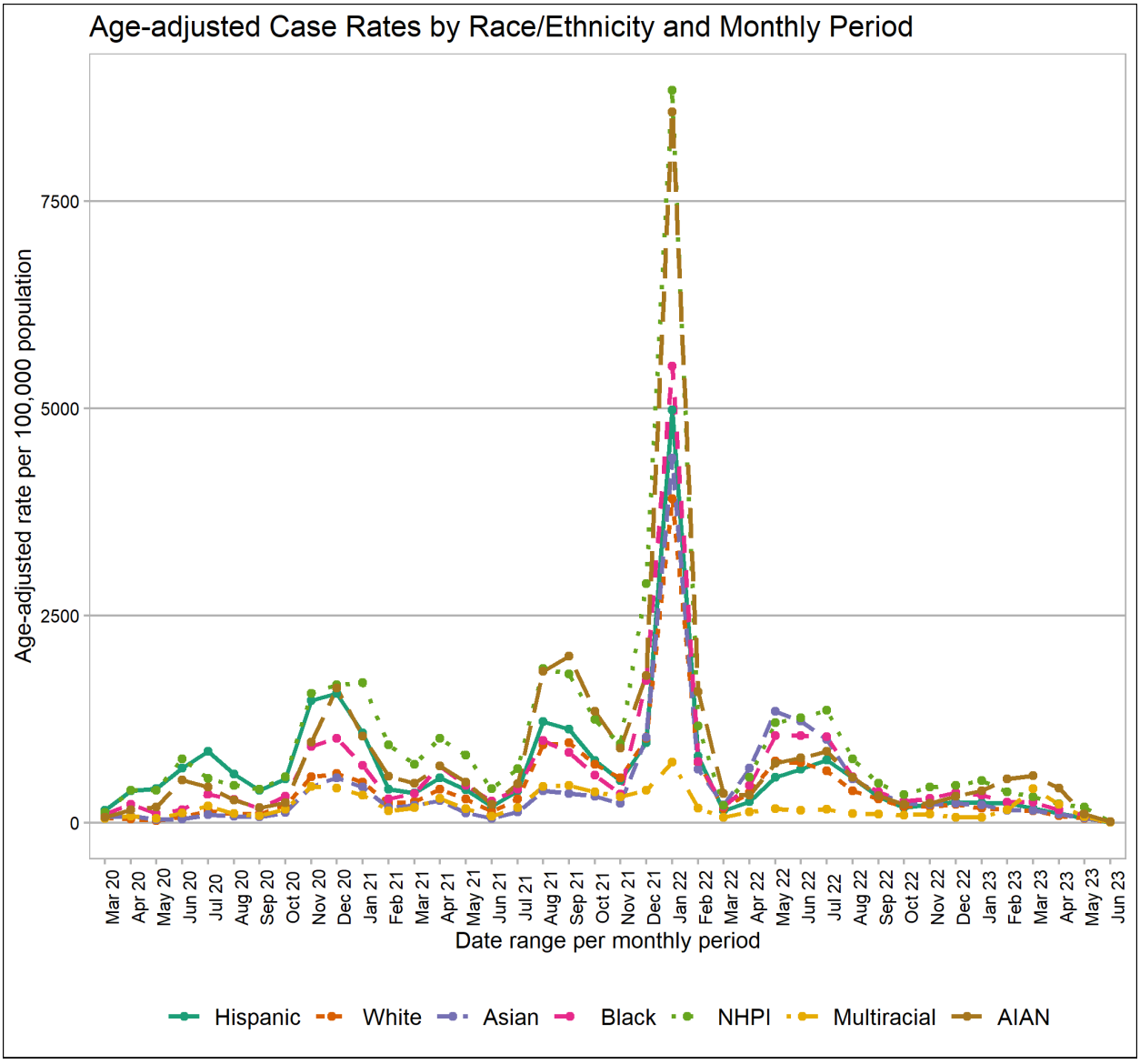
These data indicate that cases of COVID-19 are found in significant numbers across racial and ethnic groups throughout the state, and it is not confined to certain areas, such as rural, urban, or suburban regions. However, in each ACH region of the state, drastic inequities in case rates exist, disproportionately affecting racial and ethnic minority groups, particularly NHPI, AI/AN, Black, and Hispanic populations.



Source: Washington Disease Reporting System (WDRS)
Includes data from 2020-03-01 to 2023-06-03

Age-adjusted COVID-19 case rates by race and ethnicity per monthly period (Mar 2020-Jun 2023*)

*June 2023 data include all cases with a specimen collection date through 2023-06-03 to include the most recent, complete monthly period of data collection.



COVID-19 case rates, adjusted for age by race and ethnicity, were calculated to better understand how race- and ethnicity-specific patterns may be changing over time by two-week period. Race/ethnicity-specific counts and age-adjusted rates increased for all race/ethnicity groups through July and early August 2020. All groups declined from early August to mid/late-August and flattened through September 2020. All race/ethnicity-age-adjusted rates began to rapidly increase in mid-October through the end of November. Rates of cases remain highest for Hispanic and NHPI population, and higher for Black and AIAN populations in comparison to white, Asian, and multiracial populations.

Table 4. Age-adjusted COVID-19 case rates by race and ethnicity per two-week period (May 07, 2023 - June 03, 2023)

Race/Ethnicity	Two-Week Period	Case Count	Age-Adjusted Case Rate per 100,000	Lower 95% Confidence Interval	Upper 95% Confidence Interval
Hispanic	May 07, 23-May 20, 23	194	23.9	19.9	28.6
	May 21, 23-Jun 03, 23	184	24.1	19.9	29.1
White	May 07, 23-May 20, 23	1,352	24.1	22.8	25.4
	May 21, 23-Jun 03, 23	1,110	19.7	18.5	20.9
Asian	May 07, 23-May 20, 23	191	27.8	24.1	32.2
	May 21, 23-Jun 03, 23	159	23.8	20.3	28.0
Black	May 07, 23-May 20, 23	115	41.9	34.5	51.0
	May 21, 23-Jun 03, 23	94	32.1	26.0	39.6
NHPI	May 07, 23-May 20, 23	23	62.5	36.8	106.1
	May 21, 23-Jun 03, 23	28	72.1	46.7	111.3
Multiracial	May 07, 23-May 20, 23	53	30.6	22.1	42.4
	May 21, 23-Jun 03, 23	45	28.6	20.6	39.8
AIAN	May 07, 23-May 20, 23	38	45.1	32.2	63.1
	May 21, 23-Jun 03, 23	20	25.1	15.8	39.9

Source: Washington Disease Reporting System (WDRS)

Cumulative crude case counts and percentages by language spoken

Analysis of language spoken provides another important method to understand health disparities and communities impacted by COVID-19. Use of one method alone may mask health disparities and community-specific impacts. Almost half of reported cases are missing information on primary language. Despite missing data, there are some important observations.

The following table presents counts and percentages of cases, by primary language spoken. The percentage of the Washington state population 5 years and over with limited English proficiency that speak each language are also included to provide context. The information on the percentage of the Washington state population with limited English proficiency come from the Office of Financial Management 2016 estimates. Findings should be interpreted with caution due to the high proportion of missing data (78%).

Table 5. COVID-19 case count and percentage of cases by primary language spoken 2020-03-01 to 2023-06-03.

Language	Case Count	% of Cases	% of WA Population with Limited English Proficiency*
All Cases	1,963,339	100.0%	
Unknown Language	1,531,990	78.0%	
Known Language	431,349	22.0%	
English	378,873	87.8*%	
Marshallese	360	0.1*%	0.1
Vietnamese	1,383	0.3*%	0.5
Russian	1,807	0.4*%	0.3
Chinese (all)	16	0.0*%	0.3
Ukrainian	329	0.1*%	0.2
Somali	371	0.1*%	0.1
Tagalog	189	0.0*%	0.1
Amharic	218	0.1*%	0.1
Other	47,803	11.1*%	

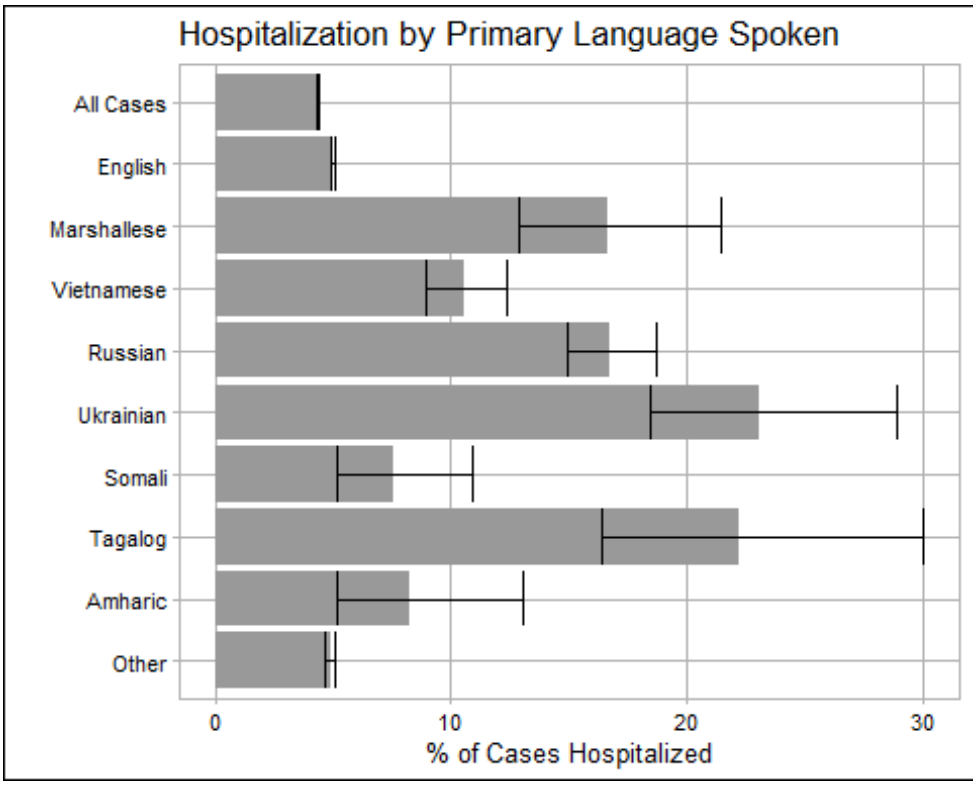
*For more information on the selected WA populations by primary language reported here, please see the WA OFM methodology, https://ofm.wa.gov/sites/default/files/public/legacy/pop/subject/ofm_pop_limited_english_proficiency_methodology.pdf

Cumulative hospitalization percentages among COVID-19 cases by language spoken

The following table and graph present the percentages of cases who were hospitalized, by primary language spoken. The high rates of hospitalizations among cases whose primary language was other than English or Spanish suggests that increased exposures and/or barriers to care may contribute to more severe disease in these populations. Languages with less than 10 individuals hospitalized were removed from this analysis to protect patient confidentiality. Findings should be interpreted with caution due to the high proportion of missing data (78%).

Table 6: Percentages of COVID-19 cases hospitalized by primary language spoken 2020-03-01 to 2023-06-03.

Language	Case Count	Hospitalization Count	% language specific cases hospitalized
All Cases	1,963,339	85,426	4.4%
English	378,873	18,934	5%
Marshallese	360	60	16.7%
Vietnamese	1,383	146	10.6%
Russian	1,807	303	16.8%
Ukrainian	329	76	23.1%
Somali	371	28	7.5%
Tagalog	189	42	22.2%
Amharic	218	18	8.3%
Other	47,803	2,337	4.9%



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